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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,302	08/16/2001	Hiroaki Taniguchi	2038-265	9388

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EXAMINER

BEFUMO, JENNA LEIGH

ART UNIT PAPER NUMBER

1771

DATE MAILED: 11/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/930,302	TANIGUCHI, HIROAKI	
	Examiner	Art Unit	
	Jenna-Leigh Befumo	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The Amendment submitted on July 23, 2003, has been entered. Claims 1, 3, 4, and 5 have been amended and claims 6 – 12 have been added. Therefore, the pending claims are 1 - 12.
2. The Applicant's amendment is sufficient to overcome the objection to the drawing set forth in section 3 of the previous Office Action.
3. Further, the Applicant's amendments to the specification are sufficient to overcome the objections to the disclosure set forth in section 4 of the previous Office Action.
4. The objection to claim 1, set forth in section 5 of the previous Office Action is withdrawn due to the Applicant's amendments.
5. Additionally, the Amendment is sufficient to overcome the 35 USC 112 2nd paragraph rejection set forth in section 8 of the previous Office Action.
6. Applicant's arguments (Response, page 10) are sufficient to overcome the 35 USC 102 and 35 USC 102/103 rejections based on Shibatani et al. (5,998,038), since Shibitani et al. teaches forming a film prior to transferring the image. Hence, the image would not produce an inner layer as claimed.

Drawings

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference signs mentioned in the description: 30, page 13, line 16. A proposed drawing correction or corrected drawings are required in reply to the Office action to

avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 1 – 4 and 6 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 03-028859.

Claims 1 – 4 are rejected for the reasons of record. Newly added claims 6 – 12, are also rejected for the reasons set forth in section 13 of the previous Office Action. Additionally, it is noted a complete translation of the Japanese patent is included with this Office Action.

10. Claims 1 – 4, and 6 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karlo (EP 0 466 503 A).

Karlo discloses a method of printing images on textile substrates (abstract). First, a latent image is formed on a carrier sheet by using toner particles (page 2, lines 12 – 15). Karlo discloses the image is produced on a carrier sheet and then transferred to the textile substrate, wetting the substrate and flowing into contact with the fibers thereof (page 2, lines 25 – 32). The image is absorbed partially into the substrate, and thus, the printed pattern will have toner material on the surface of the fabric and toner material in the interior of the fabric (page 3, lines 1 – 2). The substrate can be made from either woven or non-woven fabrics (page 3, line 2).

Even though Karlo fails to teach using synthetic fibers to make the non-woven substrate, it would have been obvious to one of ordinary skill in the art use synthetic fibers as the substrate, which have good strength and abrasion properties.

Additionally, Karlo fails to teach that the image includes a pattern of discrete dots. However, since the pattern is formed using a number of individual toner particles, as is taught by the Applicant each individual toner particles produce a discrete amount of color in the shape of a dot, that combine together to form the final image. Thus, the printed pattern would include a plurality of individual dots. Thus, claims 1, 6, 11, and 12 are rejected.

Karlo fails to teach the dimensions of the inner and outer layers of the printed pattern. However, it would have been obvious to one of ordinary skill in the art to optimize the thickness of the image and choose the dimensions claimed by the Applicant. One of ordinary skill in the art would make the image thick enough so that the printed pattern is strongly adhered to the textile fabric and doesn't easily wear off, while keeping the image as thin as possible so that the fabric does not become stiff and uncomfortable. Further, where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). Therefore, claims 2 – 4 and 7 – 10 are rejected.

11. Claims 1 – 4 and 6 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van den Bogaert et al. (5,740,510).

Van den Bogaert et al. discloses an electrophotographic printing apparatus to produce multi-color printed materials (abstract). Van den Bogaert et al. discloses that the toner particles are deposited on an intermediate toner-receiving drum and then transferred to the final substrate (column 3, lines 45 – 48). The image is transferred from the intermediate surface to the final surface by electrostatic force and pressure (column 5, lines 31 – 34). Thus, Van den Bogaert et al. discloses applying the toner image to the final substrate using the same method steps as those

taught by the Applicant, i.e., the latent image is formed via electrostatic charges, transferred to an intermediate drum, and then transferred to the final surface via electrostatic force and pressure. The pressure used to apply the toner image to the final substrate would inherently push some degree of toner below the surface of the substrate and into the inner layer. Further, the toner particles would form individual dots of color when applied to the final substrate.

While Van den Bogaert et al. discloses that the printing method can be used on plastified fabrics (column 10, lines 5 – 6), Van den Bogaert et al. fails to teach the fabrics are made from nonwoven materials. It is noted that the term “plastified fabrics” used by Van den Bogaert et al., is interpreted as meaning fabrics made from plastic or polymeric materials, such as synthetic fibers. It would have been obvious to one of ordinary skill in the art to use the printing method described by Van den Bogaert et al. on non-woven fabrics since nonwoven fabrics are readily available and cheaper to produce than most woven and knit fabrics. Further, it would have been obvious to one of ordinary skill in the art to decorate nonwoven materials with printed images to make the products attractive to various consumers. Therefore, claims 1, 6, 11, and 12 are rejected.

With respect to the thickness and surface area dimensions recited by the Applicant, these limitations are presumed to be present in the product taught by Van den Bogaert et al. since the printed image is applied via the same process as the Applicant teaches. Further, one of ordinary skill in the art would choose to optimize the thickness of the printed image so that the image is strongly adheres to the textile fabric and has good resolution and picture clarity, while keeping the image thin so that the fabric does not become stiff and uncomfortable. Therefore, claims 2 – 4 and 7 – 10 are rejected.

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 03-028859, Karlo, or Van den Bogaert et al.

The features of JP 03-028859, Karlo, and Van den Bogaert et al. have been set forth above. JP 03-028859, Karlo, and Van den Bogaert et al. fail to teach explicitly printing a printed pattern on the outer layer of absorbent products, such as diapers. Diapers, made from an impermeable backsheet, an absorbent core, and an permeable topsheet, are commonly decorated with printed images to produce a finished product which is attractive to consumers as well as distinguishing the front of the diaper from the back. Therefore, it would have been obvious to one of ordinary skill in the art to use the known printing methods taught by JP 03-028859, Karlo, or Van den Bogaert et al. as methods to apply a printed image to diaper products since the printing methods can be applied to fabrics.

Response to Arguments

13. Applicant's arguments filed July 23, 2003 have been fully considered but they are not persuasive. The Applicant argues that JP 03 – 028859 would not necessarily possess the claimed toner characteristics (Response, page 10). But the Applicant fails to specifically address why JP 03-028859 would not have the claimed properties. How would the images differ? Why wouldn't the toner produce a printed image which is partially embedded in the surface of a non-woven fabric? And why wouldn't the individual toner particles produce individual dots which combined together form an image? Is the Applicant's printed image formed without any heating or phase changes to the toner particles? How then is the Applicant's toner particles fixed to the fabric surface? Wouldn't the toner rub off or wash off when used or when water is added? Exactly how is the printed image produced by the Applicant's invention, different from those

printed images produced with toner particles in the prior art? What structural differences do the Applicant's method limitations produce that wouldn't be present in the images produced by the prior art?

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna-Leigh Befumo whose telephone number is (703) 605-1170. The examiner can normally be reached on Monday - Friday (8:00 - 5:30). Approximately December 31st, the examiner's telephone number will change to (571) 272-1472.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Jenna-Leigh Befumo
October 31, 2003



CHERYL A. JUSKA
PRIMARY EXAMINER